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## ABSTRACT OF THE DISCLOSURE

The present invention relates to a method for wavelength selection in a multi-wavelength TPSF or CW-based optical imaging system. This consists of identifying several chromophores in a highly turbid medium and selecting optimized wavelengths whereby using these wavelengths optimizes the deduction of the chromophore concentrations. Such chromophore concentrations may be combined to deduce other properties of the turbid medium.